

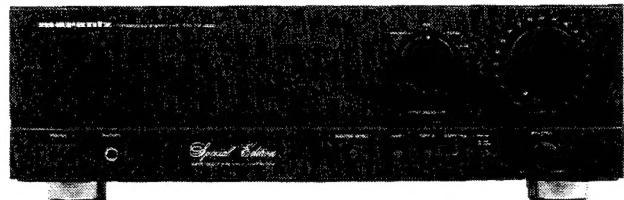
# Service Manual

**74 PM40/00B/01B/02B/05B/07B  
10B/12B/15B/17B**

**Stereo amplifier**



**PM-40**



**PM-40SE**

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**m a r a n t z®**

**model PM-40/PM-40SE**

First issue: 1990

4822 725 50913

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.

Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

### ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

### PARTS ORDERING

Parts may be ordered at the following addresses:

<b>AUSTRIA</b> HORNYPHON Vertreibgesellschaft GmbH Wienerbergstrasse 1 A 1101 Wien Austria Telex: 132.332	<b>FINLAND</b> MARANTZ DIVISION OF OY PHILIPS Ab Kaivokatu 8 00100 Helsinki Finland Telex: 124811	<b>GREAT BRITAIN</b> MARANTZ AUDIO U.K. Ltd Unit 15/16 Saxon Way Industrial Estate Moor Lane Harmondsworth UB7 OLW Great Britain Telex: 935196	<b>SAUDI ARABIA</b> AL ALAMIAH ELECTRONICS P.O.Box 5954 University Street Riyadh 11432 Saudi Arabia Telex: 401530	<b>SWITZERLAND</b> MARANTZ Technischer Service Duenstrasse 3 3186 Duedingen Switzerland
<b>BELGIUM</b> SVD DIVISION MARANTZ Industrialaan 1 1720 Groot-Bijgaarden Belgium Telex: 24466	<b>FRANCE</b> MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnières France Telex: 611651	<b>GREECE</b> SHERTON ELECTRONICS S.A. P.O.Box 21025 Hippocrates Street 188 Athens 11471 Greece Telex: 216.795	<b>SOUTH AFRICA</b> MARANTZ DIVISION OF PHILIPS S.A. Main Road Martindale P.O. Box. 58088 Newville 21114 South Africa	<b>TURKEY</b> DOGRUOL Ltd. I.M.C. 6 Blok N°6310 Unkapani Istanbul Turkey Telex: 22085
<b>CHILE</b> MARANTZ DIVISION OF PHILIPS S.A. AV. Santa Maria, 0760 Casilla 2687 Santiago Telex: 240.239	<b>GERMANY</b> MARANTZ GERMANY GmbH Alexanderstrasse 1 2000 Hamburg Germany	<b>JAPAN</b> MARANTZ JAPAN, Inc. 35-1, 7-chome, Sagamiono Sagamihara-shi, Kanagawa Japan	<b>SPAIN</b> PHONO S.A. Ignacio Iglesias 10 Badalona (Barcelona) Spain Telex: 59355	<b>MALTA</b> CACHIA & GALEA Republic Street, 68D Valetta Telex: 1682
<b>DENMARK</b> MARANTZ DIVISION OF PHILIPS SERVICE A/S Prags Boulevard 80 Postbox 1919 DK-2300 København S Denmark Telex: 31201	<b>THE NETHERLANDS</b> Elpro Marantz Wint Hontlaan 28 3526 KV Utrecht The Netherlands Telex: 4748	<b>KUWAIT</b> AL ALAMIAH ELECTRONICS Ussama Building Fahd al Saleem Street P.O.Box 23781 Safat-Kuwait Telex: 22694	<b>SWEDEN</b> MARANTZ DIVISION OF PHILIPS Försäljning AB Tegeluddsvägen 1 S-115 84 Stockholm Sweden Telex: 14060	<b>PORTUGAL</b> MARANTZ Divisao philips S.A. service Outurela-carnaxide 2795 LinDA-A-VELHA Telex: 43906
<b>NORWAY</b> MARANTZ DIVISION OF PHILIPS A/S Sandstuveien 40 0680 Oslo 6 Norway Telex: 72640	<b>ITALY</b> MARANTZ ITALIANA S.P.A. Via Chiese, 74 20126 Milano Italy			

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

## TECHNICAL SPECIFICATIONS (DIN)

### Power Amplifier Section

IHF Dynamic Power	
2 ohms	: 100W
4 ohms	: 80W
8 ohms	: 54W

Power Output Per Channel	
DIN 8 ohms	1 kHz 1% THD : 48W
FTC 4 ohms	40–20 kHz 0.15% THD : 55W
FTC 8 ohms	40–20 kHz 0.08% THD : 43W

Total Harmonic Distortion at 8 ohms	: 0.015%
I.M. Distortion at 8 ohms	: 0.015%
Damping Factor	: 100

### Phono Amplifier Section

MM Cartridge Input	
Frequency Difference	: ±0.5 dB
Signal to Noise Ratio (A weighted)	: 87 dB
Input Sensitivity	: 2.5 mV
Input Impedance	: 47k Ohms

### High Level Section

Frequency Response	: 10–60 kHz
Signal to Noise Ratio (A weighted)	: 87 dB
Input Sensitivity	: 150 mV
Input Impedance	: 33k Ohms
Tape Output Level [Phono (MM) 5 mV 1 kHz Input]	: 300 mV
Tape Output Impedance (Phono)	: 220 Ohms
Tone Control Action	100 Hz : ±6 dB
	10 kHz : ±6 dB

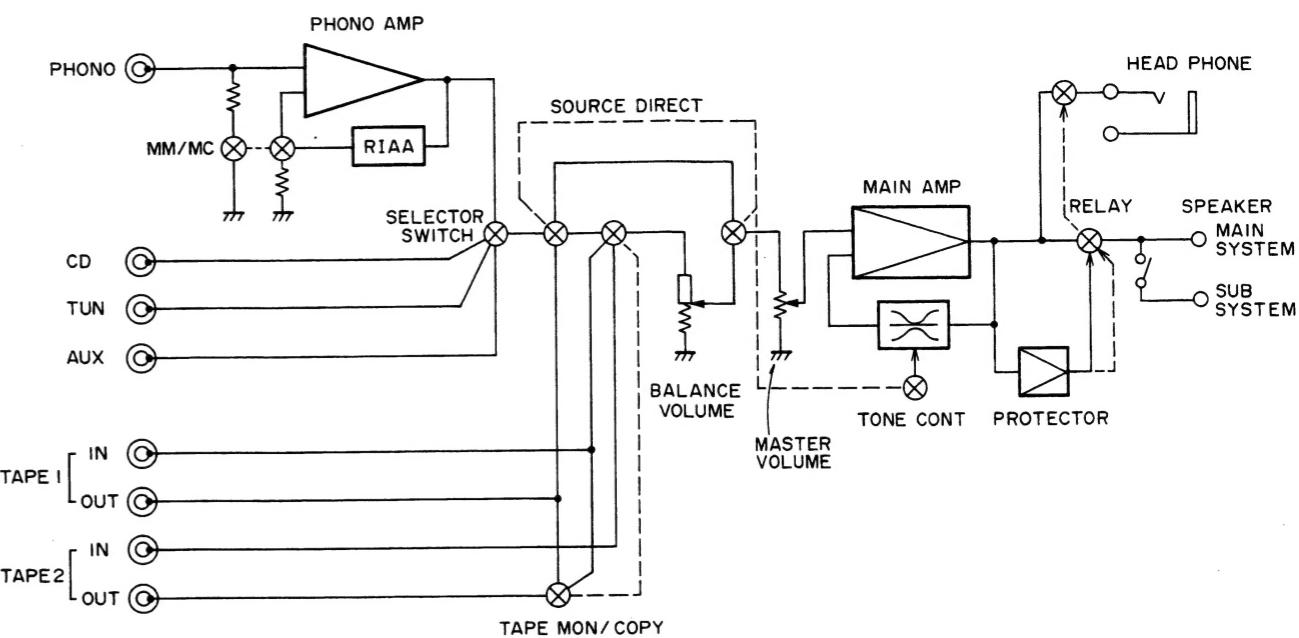
### General

Power Requirements	
2 Voltage version	: 220V/240V
4 Voltage version	: 110V–240V
Power Consumption (Rated Power)	
AB Class Mode	: 170W
A Class Mode	: –
Dimensions	
Panel Width	: 420 mm
Panel Height	: 118 mm
Depth	: 280 mm
Weight	
Unit alone	: 10 kg

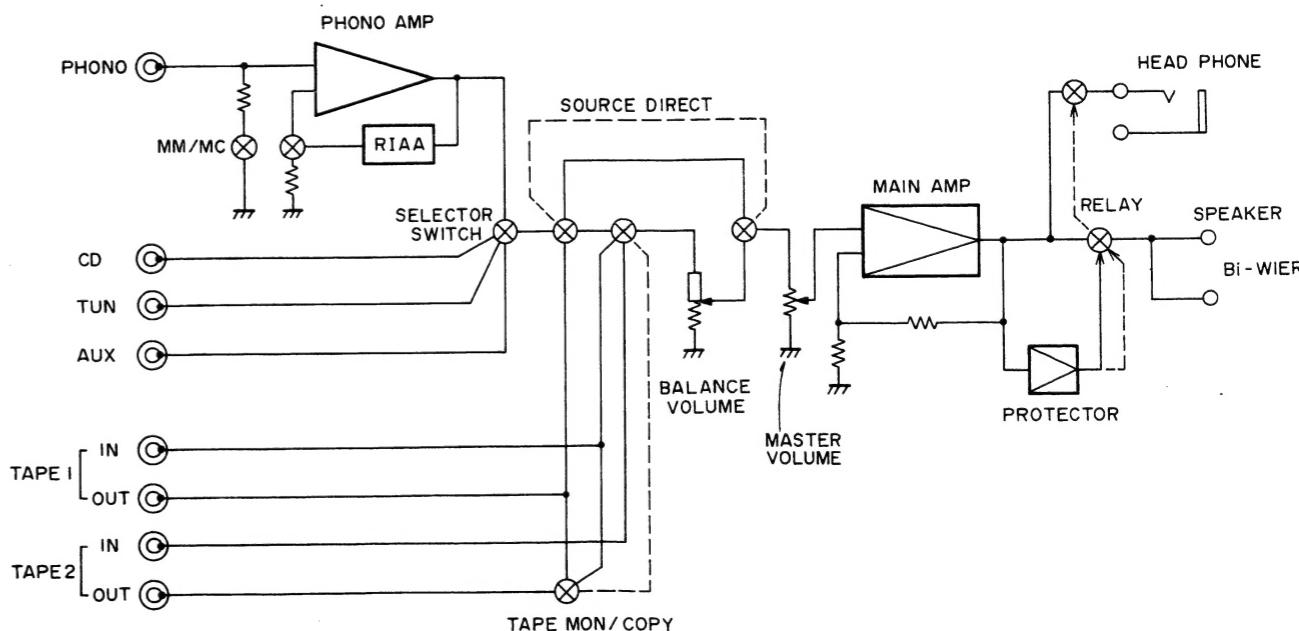
Specifications and appearance are subject to change for modification without notice.

## 1. BLOCK DIAGRAM

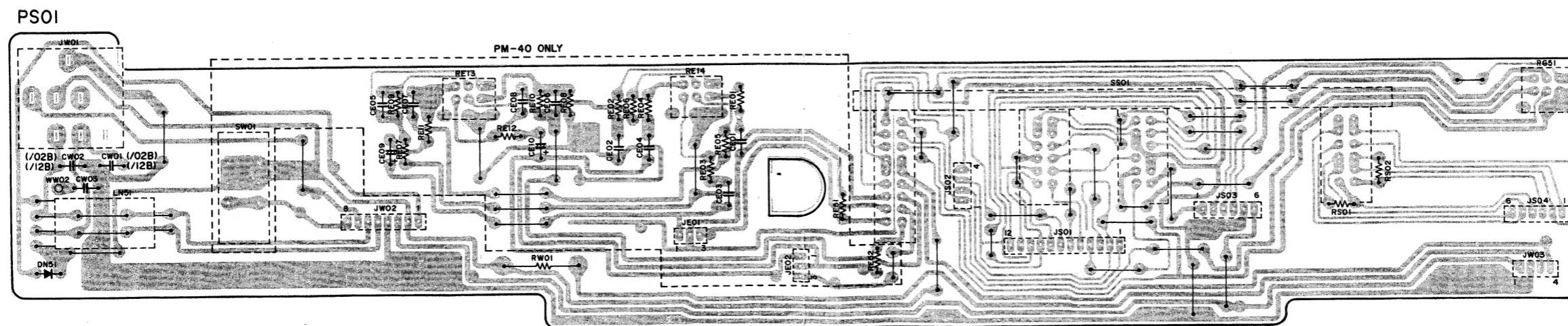
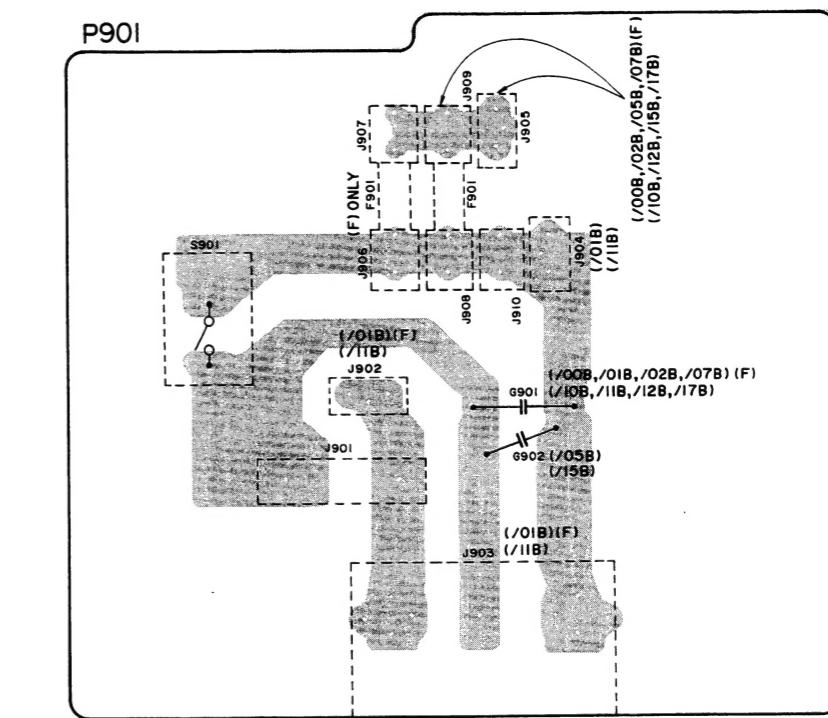
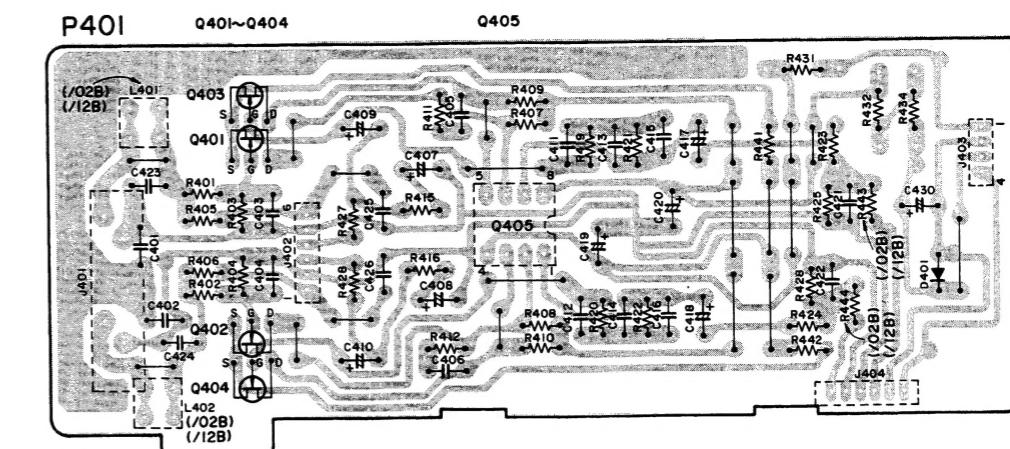
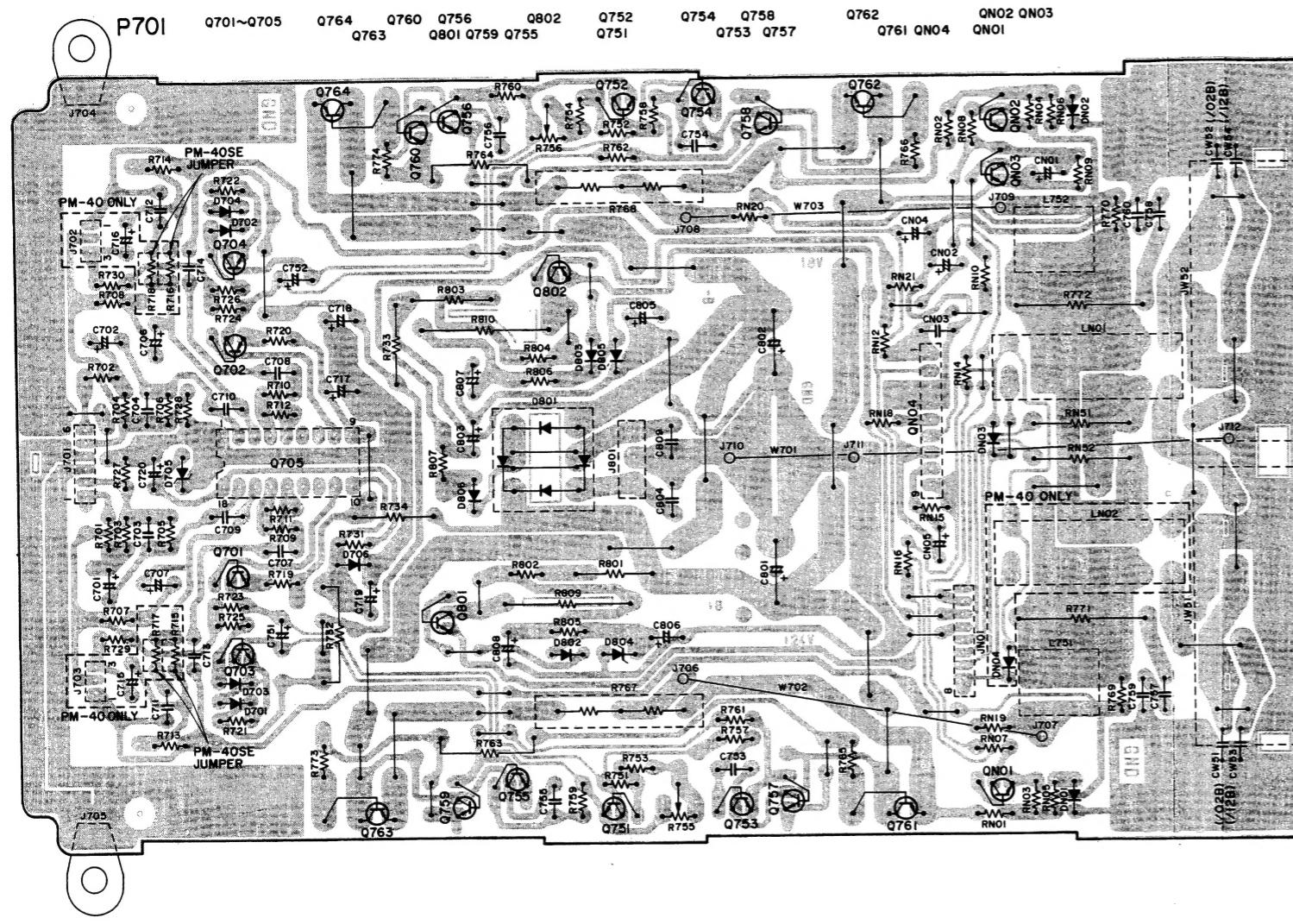
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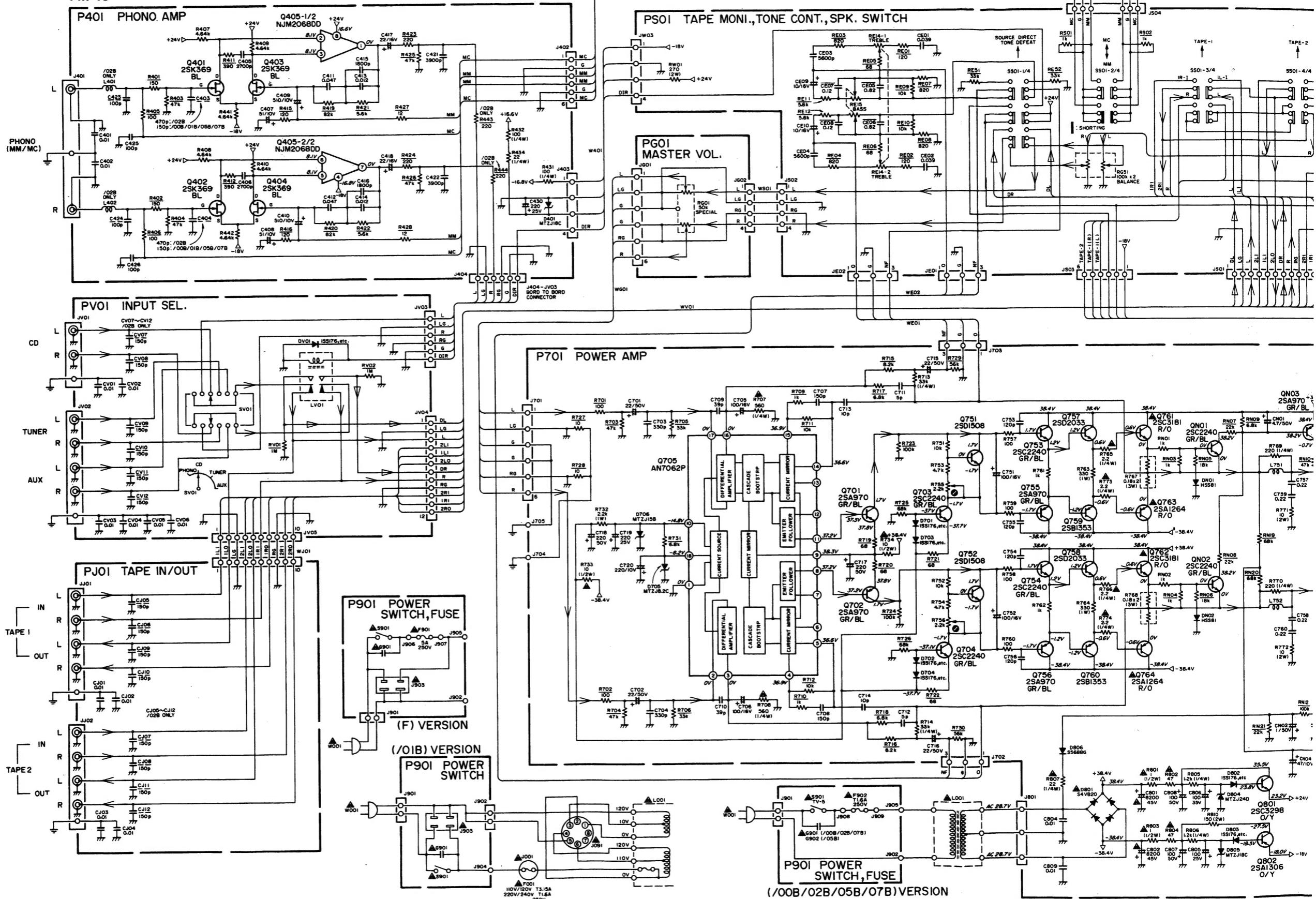
PM-40SE

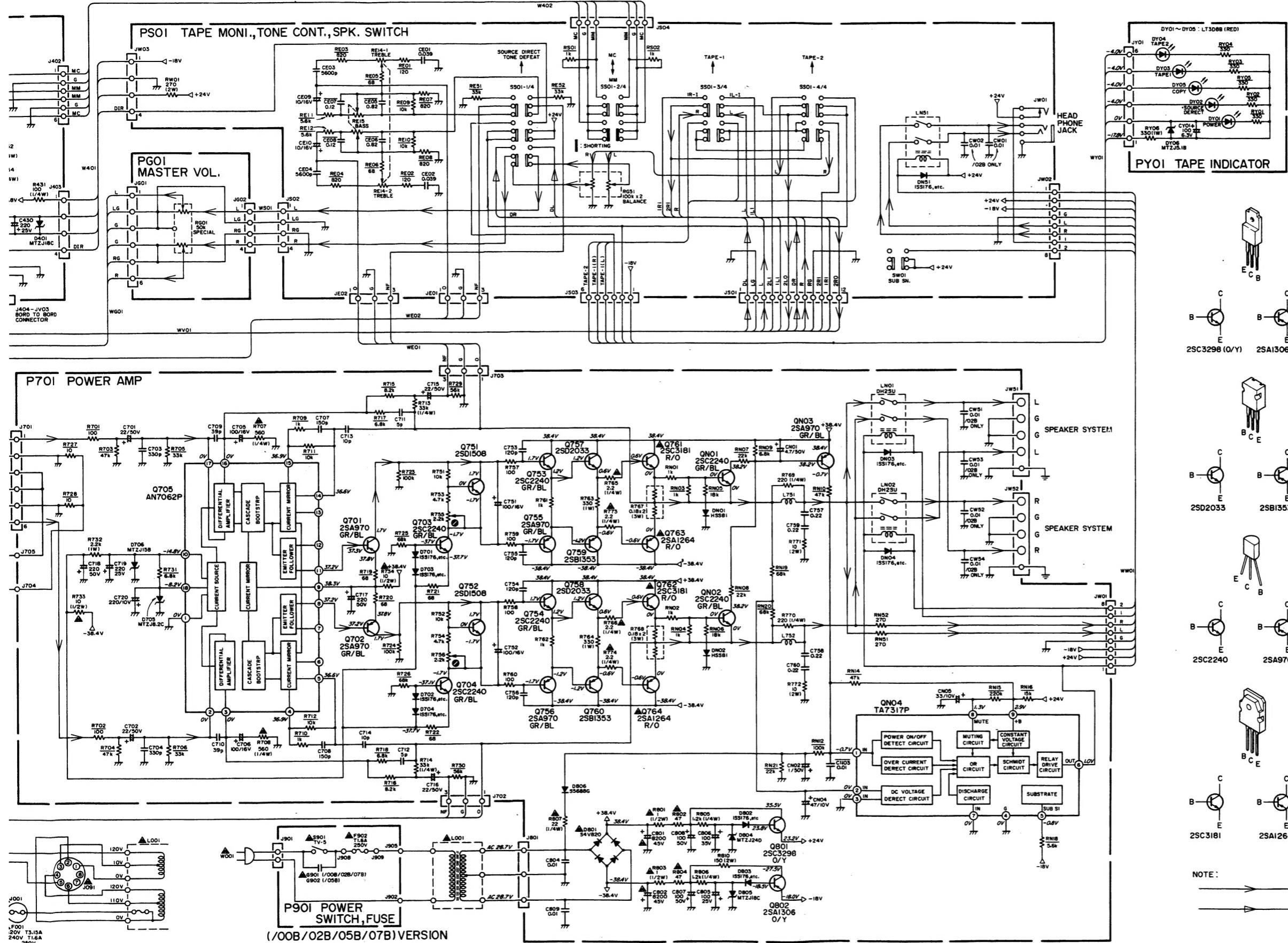


## **2. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)**



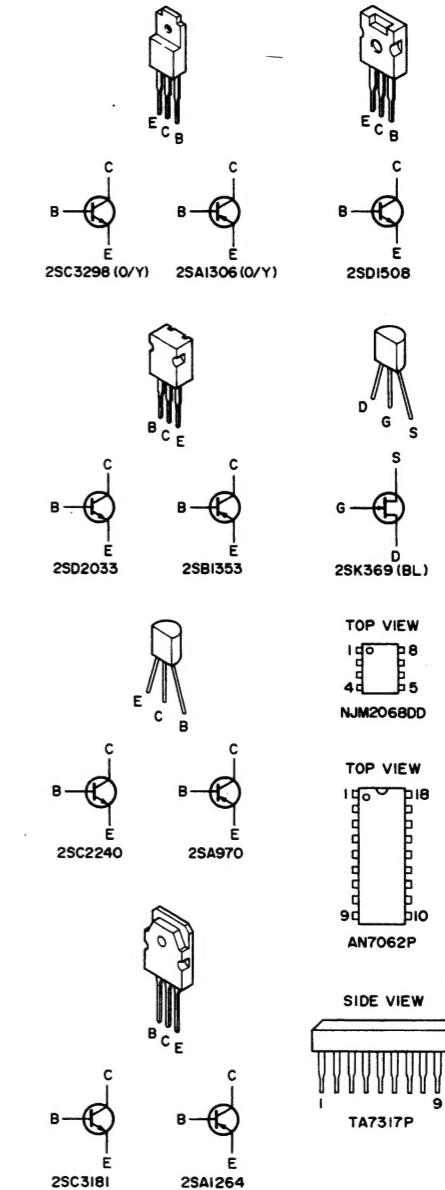
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## **NOTE ON SAFETY:**

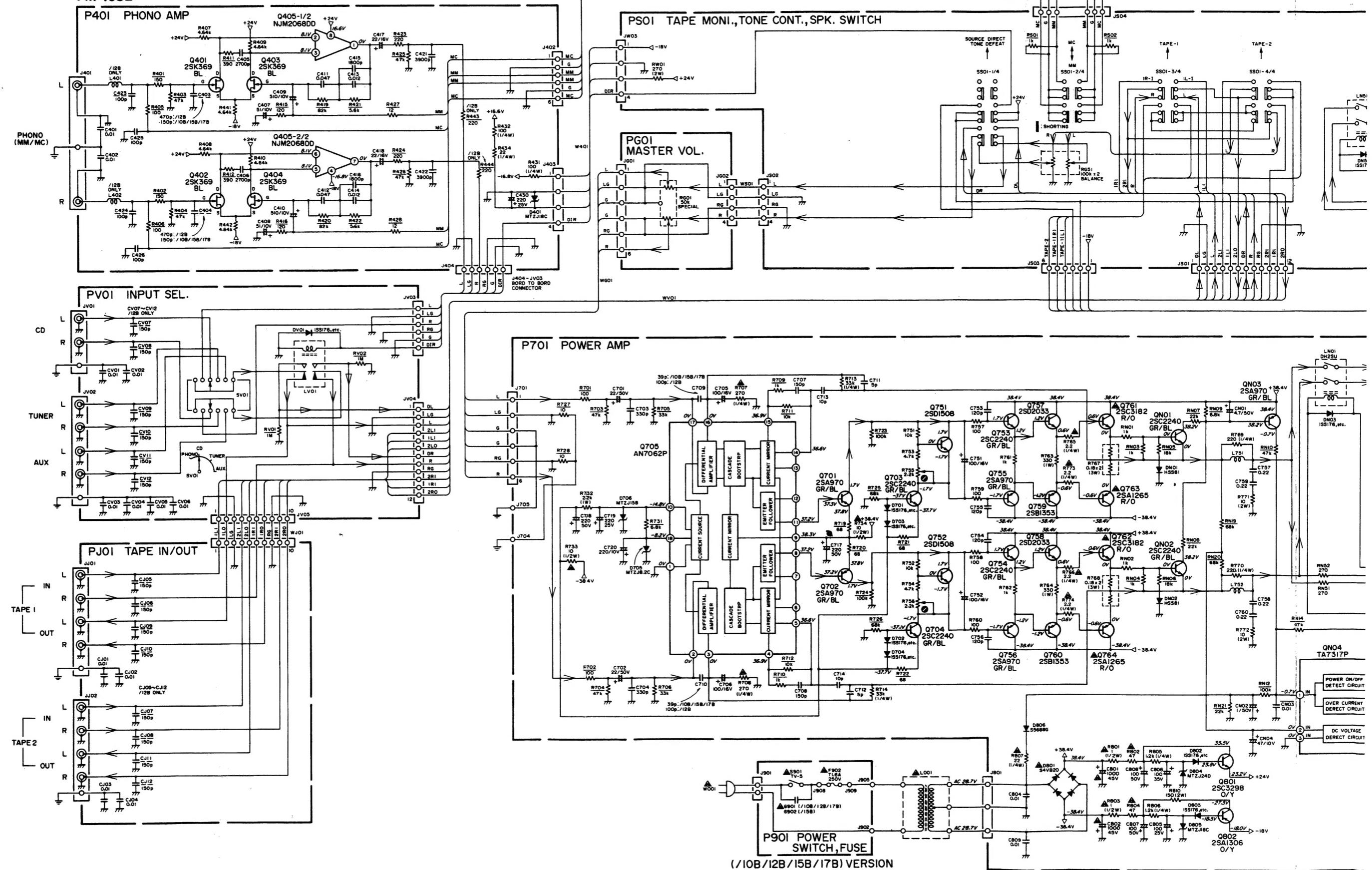
**Symbol ▲ Fire or electrical shock hazard.** Only original parts should be used to replace any part marked with symbol ▲. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



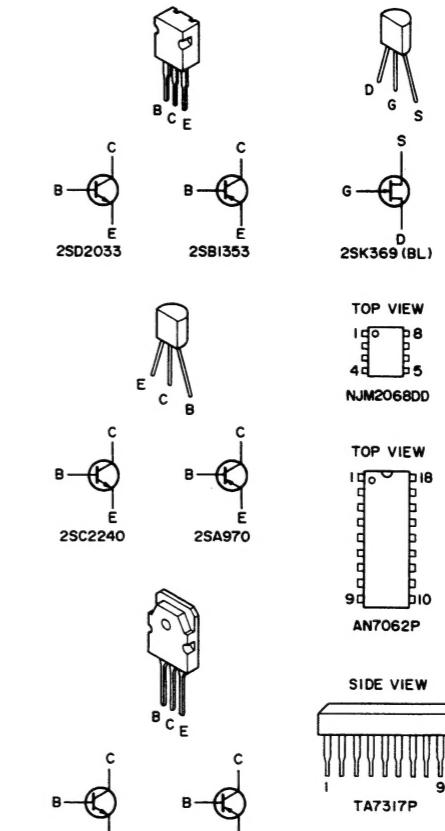
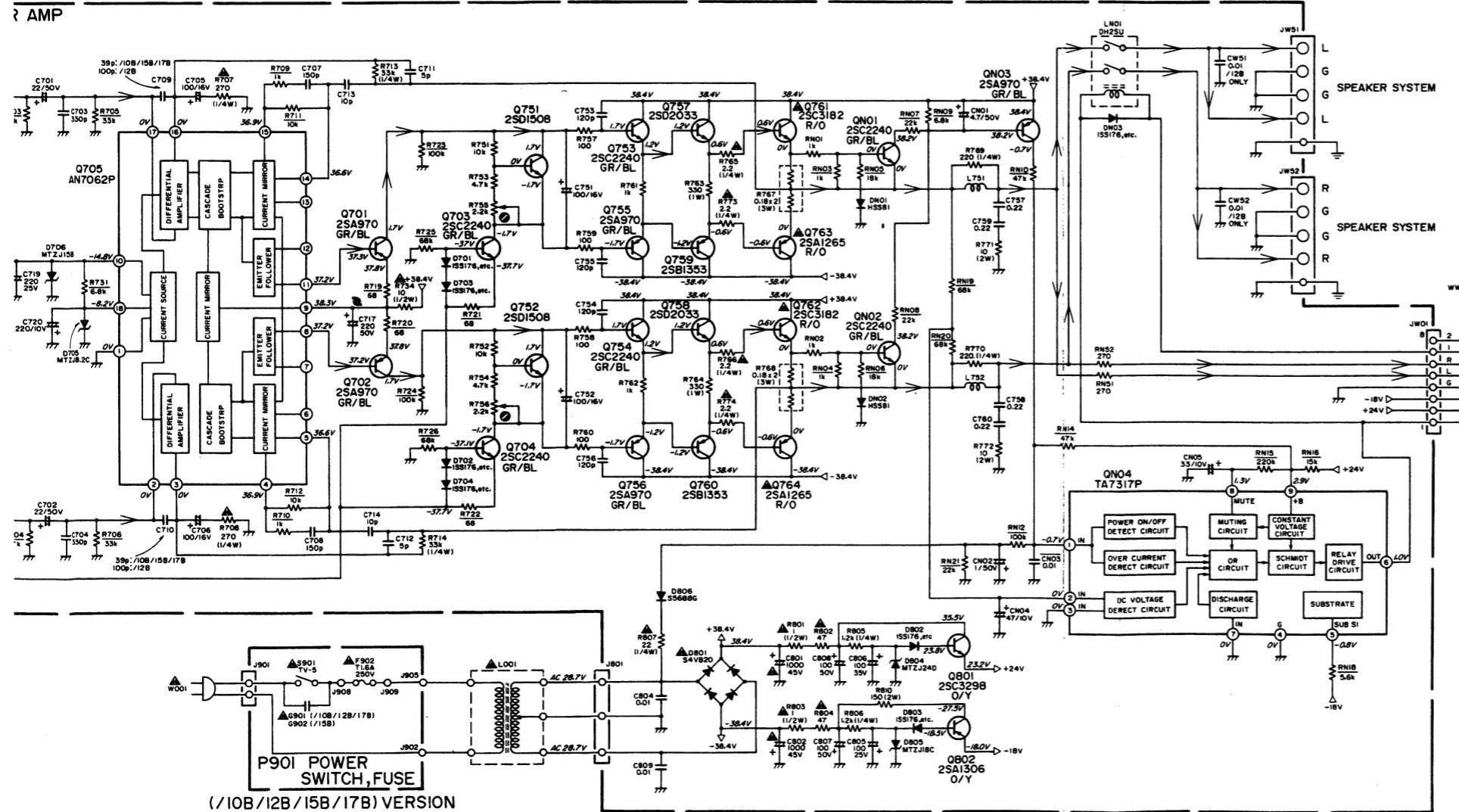
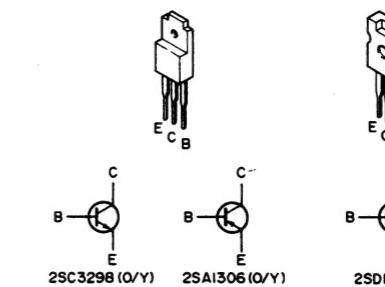
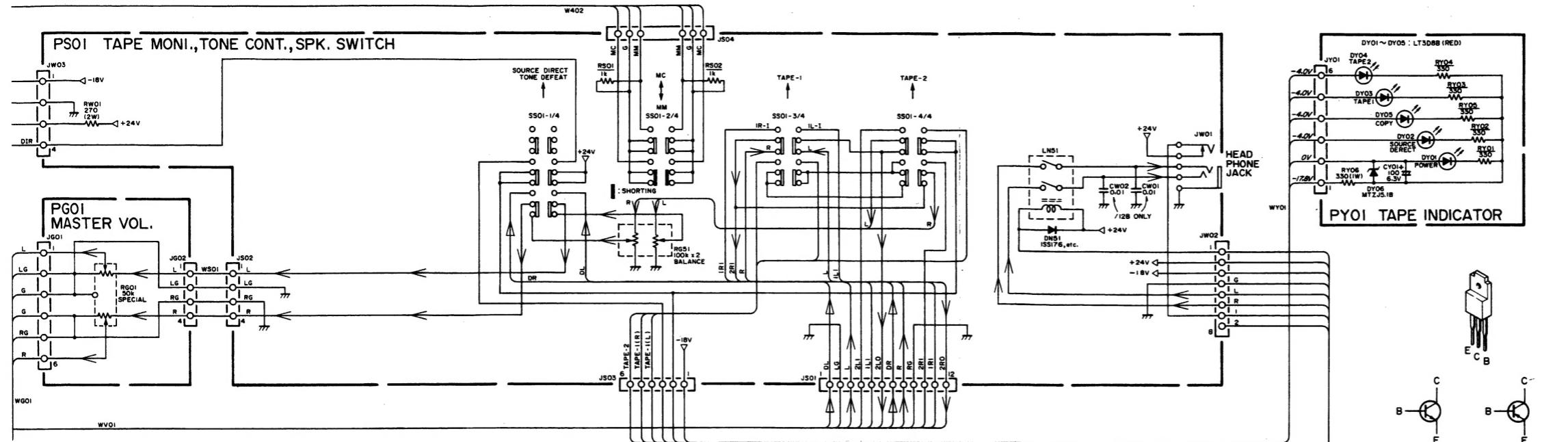
 NORMAL SIGNAL LINE

 SOURCE DIRECT SIGNAL LINE

## PM-40SE



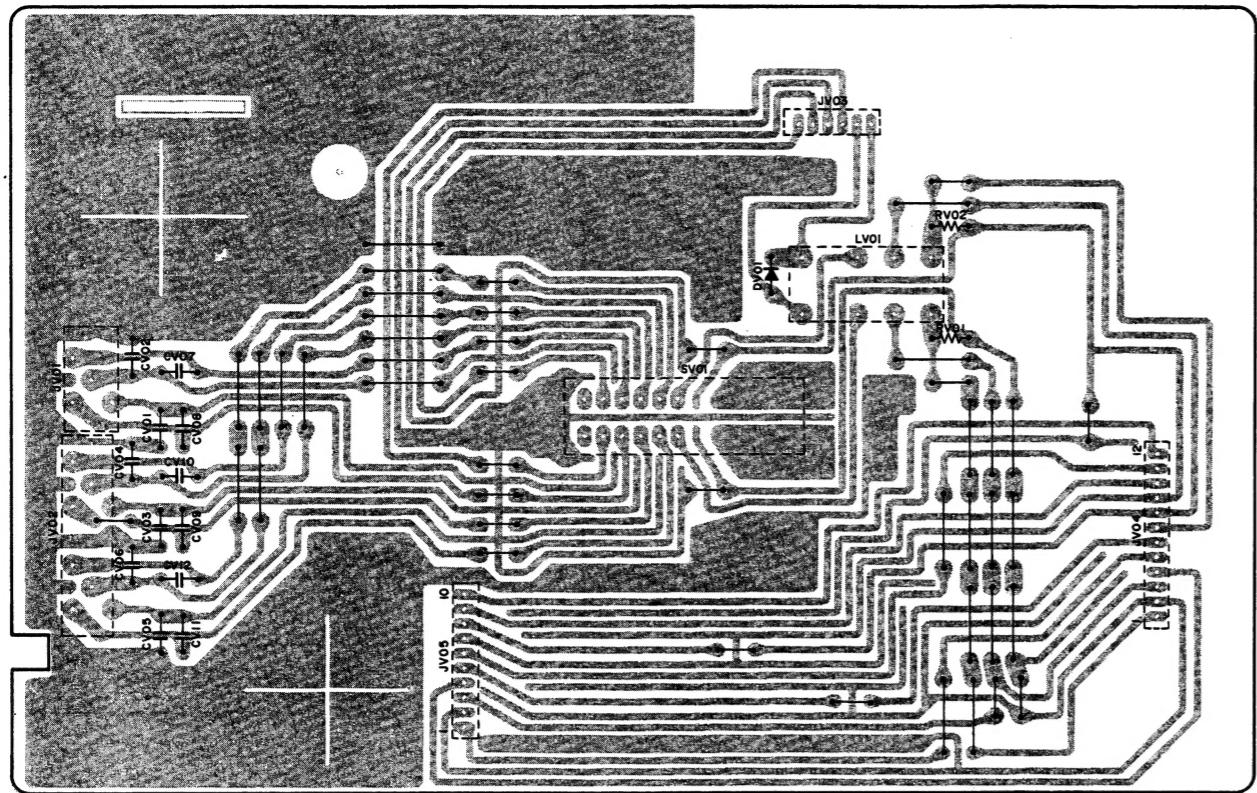
**NOTE ON SAFETY:**  
Symbol **▲** Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol **▲**. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



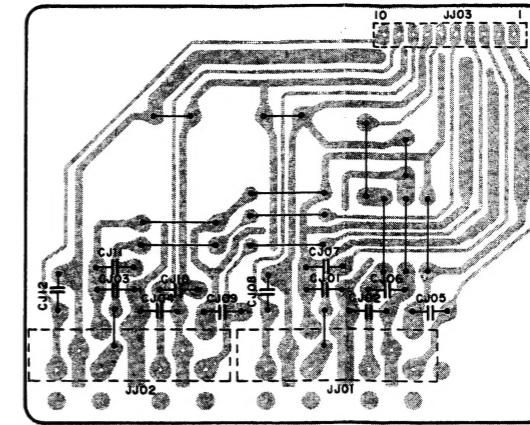
NOTE:  
 —> NORMAL SIGNAL LINE  
 —> SOURCE DIRECT SIGNAL LINE

**NOTE ON SAFETY:**  
 Symbol **▲** Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol **▲**. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

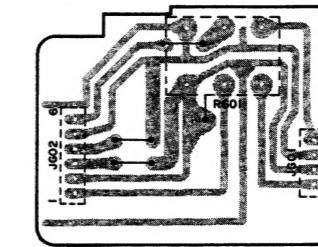
PVOI



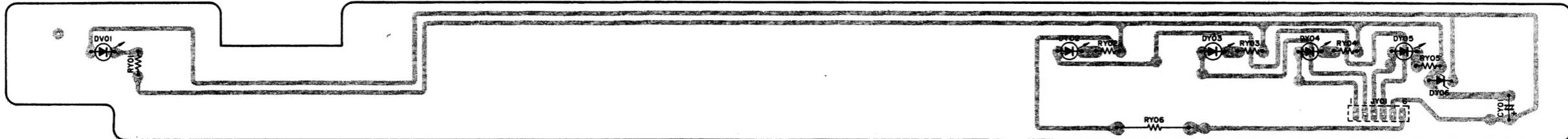
PJOI



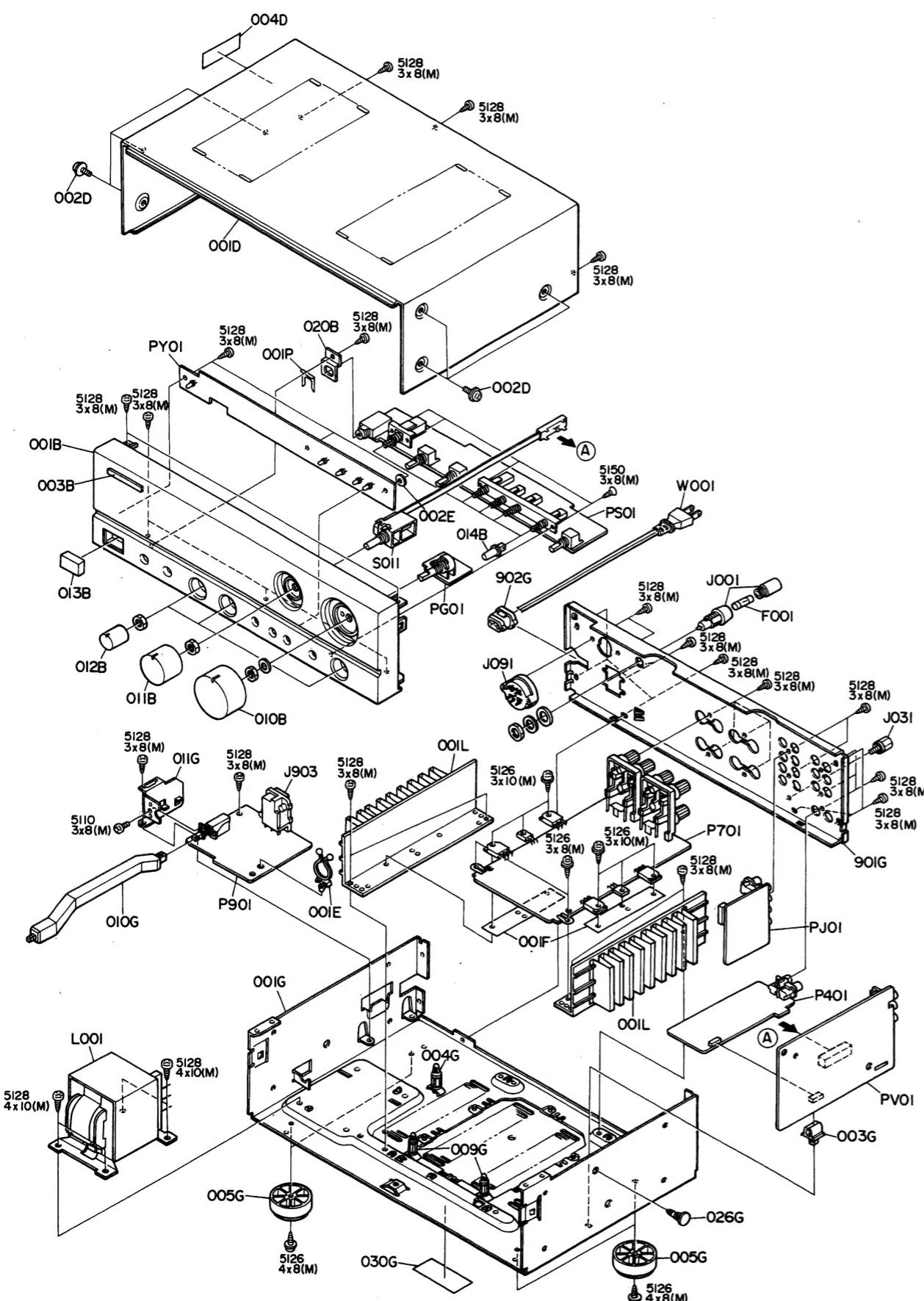
PG01



PY01



### **3. EXPLODED VIEW AND PARTS LIST**



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 425 40177 4822 425 40178	Front Panel Assembly /00B/01B/02B/05B/07B Front Panel Assembly /10B/12B/15B/17B
003B	4822 459 10943	Badge
010B	4822 413 41544	Knob, Volume
011B	4822 413 41545	Knob, Selector
012B	4822 413 41589 4822 413 31551	Knob, Tone/Balance /00B/01B/02B/05B/07B Knob, Tone/Balance /10B/12B/15B/17B
013B	4822 410 60395	Button, Power
014B	4822 410 60343	Button, Speaker
002D	4822 501 11008	Screw
001F	4822 466 92914	Sheet, DENKA
005G	4822 462 41477	Leg
010G	4822 404 60628	Link, Power Switch
902G	4822 532 60948	Bushing, AC Cord /00B/01B/02B/07B/10B/12B/17B
902G	4822 532 61184	Bushing, AC Cord /05B/15B
001P	4822 401 11351	Clamper, Phono Jack
▲F001	4822 253 30191	Fuse, T1.6A 250V /01B
F002	4822 253 30027	Fuse, T3.15A 250V /01B
▲J001	4822 256 30233	Jack, Fuse Holder /01B
J031	4822 290 40297	Terminal, GND
▲J091	4822 272 10227	Voltage Selector /01B
J092	4822 265 10092	Jack, AC Adapter /01B
▲J903	4822 264 30313	Jack, AC Outlet
▲L001	4822 146 21552 4822 146 21555	Power Transformer /00B/02B/05B/07B/10B/12B/15B/17B Power Transformer /01B
S011	4822 273 10214	Rotary Switch, Selector
001T	4822 736 20695 4822 736 20715	User Manual /00B/01B/02B/05B/07B User Manual /10B/12B/15B/17B

#### **4. IDLING CURRENT ADJUSTMENT**

- (1) Before switching the power ON, set the Master Volume control to the minimum position and the Balance and Tone controls to the center positions. Also set semi-fixed resistors R755 (L CH) and R756 (R CH) on PCB P701 to the center positions.
  - (2) Each of the cement resistors R767 (L CH) and R768 (R CH) on the PCB P701 is provided with three test points. Connect a digital voltmeter, set for the DC voltage input, to the test points at the two extremities of the three test points of R767 or R768.
  - (3) After the setup above, switch the power ON and adjust semi-fixed resistor R755 (L CH) or R756 (R CH) on PCB P701 according to the digital voltmeter reading. The target setting value is 14 mV (38.9 mA) for both the L CH and R CH.

Please refer to the table below.

Elapsed time after power ON	Idling current setting value
30 sec. – 1 min.	5 mV
1 min. – 2 min.	8 mV
2 min. – 4 min.	10.5 mV
More than 4 min.	14 mV

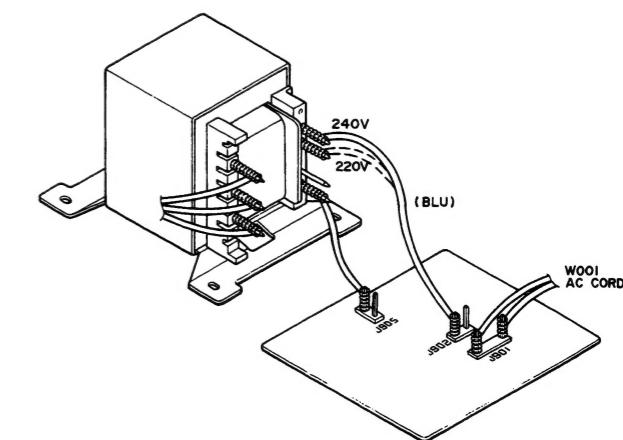
**Note on Safety:**

**Symbol ▲ Fire or electrical shock hazard.** Only original parts should be used to replace any part marked with symbol ▲. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

## 5. HOW TO CHANGE THE SUPPLY VOLTAGE (/00B/02B/05B/07B/10B/12B/15B/17B Versions)

With the /05B/07B/15B/17B Versions, the rated supply voltage of 240V can be changed to 220V. In the same way, the 220V rated supply voltage of the /00B/02B/10B/ 12B Versions can be changed to 240V.

Refer to the following diagram for the voltage change procedure.



## 6. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
ACVTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DCVTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjust level of primary power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

## 7. VOLTAGE CONVERSION

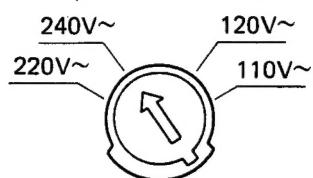
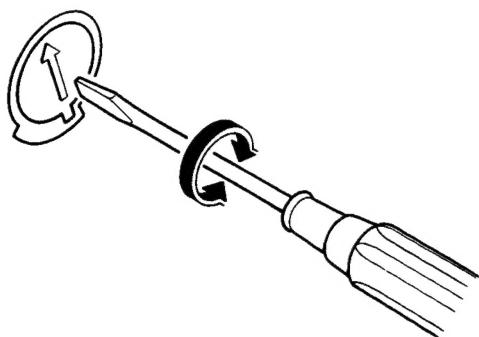
### • EUROPEAN MODEL ONLY

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

### VOLTAGE SELECTOR

#### CAUTION

DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.



## 8. ELECTRICAL PARTS LIST

### ASSIGNMENT OF COMMON PARTS CODES.

#### RESISTOR

R\*\*\*: (1) GD05---140, Carbon film fixed resistor,  $\pm 5\%$ , 1/4W

R\*\*\*: (2) GD05---160, Carbon film fixed resistor,  $\pm 5\%$ , 1/6W

①—Resistance value

#### Examples

##### ① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

#### C\*\*\*: CERAMIC CAP.

(1) DD1---370, Ceramic condenser

Disc type

①② Temp. coeff. P350 ~ N1000, 50V

Capacity value

Tolerance

#### Examples

##### ① Tolerance (Capacity deviation)

$\pm 0.25\text{pF}...0$

$\pm 0.5\text{pF}...1$

$\pm 5\%...5$

\* Tolerance of COMMON PARTS handled here are as follows:

0.5pF ~ 5pF ...  $\pm 0.25\text{pF}$

6pF ~ 10pF ...  $\pm 0.5\text{pF}$

12pF ~ 560pF ...  $\pm 5\%$

##### ② Capacity value

0.5pF...005 3pF...030 100pF...101

1pF...010 10pF...100 220pF...221

1.5pF...015 47pF...470 560pF...561

#### C\*\*\*: CERAMIC CAP.

(1) DK16---300, High dielectric constant ceramic condenser

Disc type

① Temp. chara. 2B4, 50V

Capacity value

#### Example

##### ② Capacity value

100pF...101 1000pF...102 10000pF...103

470pF...471 2200pF...222

#### C\*\*\*: ELECTROLY CAP. ( $\parallel$ ), FILM CAP. ( $\frac{1}{2}$ )

(1) EA---10, Electrolytic condenser

One-way lead type, Tolerance  $\pm 20\%$

①②

Dielectric strength

Capacity value

#### Examples

##### ① Capacity value

0.1μF...104 4.7μF...475 100μF...107

0.33μF...334 10μF...106 330μF...337

1μF...105 22μF...226 1100μF...108

2200μF...228

##### ② Working voltage

6.3V...006 25V...025

10V...010 35V...035

16V...016 50V...050

##### (2) DF15---350, Plastic film condenser

One-way type, Mylar  $\pm 5\%$  50V

①

Capacity value

#### Examples

##### ① Capacity value

0.001μF(1000pF)...102 0.1μF...104

0.0018μF.....182 0.56μF...564

0.01μF.....103 1μF...105

0.015μF.....153

REF. DESIG.	PART NO.	DESCRIPTION
		PG01-MASTER VOLUME CIRCUIT BOARD
RG01	4822 101 30653	Variable Resistor 50KΩ
		PJ01-TAPE IN/OUT CIRCUIT BOARD
CJ01	4822 122 32486	Ceramic Cap. 0.01μF +80% -20%
CJ04		
JJ01	4822 266 30284	Terminal, 4P RCA
JJ02	4822 266 30284	Terminal, 4P RCA
		PS01-TAPE/TONE/SPK. CIRCUIT BOARD
CE01	4822 121 43133	Film Cap. 0.039μF ±5% /00B/01B/02B/05B/07B
CE02	4822 121 43133	Film Cap. 0.039μF ±5% /00B/01B/02B/05B/07B
CE03	4822 121 51389	Film Cap. 5600pF ±5% /00B/01B/02B/05B/07B
CE04	4822 121 51389	Film Cap. 5600pF ±5% /00B/01B/02B/05B/07B
CE09	4822 124 90352	Elect. Cap. 10μF 16V /00B/01B/02B/05B/07B
CE10	4822 124 90352	Elect. Cap. 10μF 16V /00B/01B/02B/05B/07B
CW01	4822 122 32486	Ceramic 0.01μF +80% -20% /02B/12B
CW02	4822 122 32486	Ceramic 0.01μF +80% -20% /02B/12B
RE13	4822 100 30139	Variable Resistor 50KΩ(C) /00B/01B/02B/05B/07B
RE14	4822 100 30139	Variable Resistor 50KΩ(C) /00B/01B/02B/05B/07B
RG51	4822 100 30138	Variable Resistor 100KΩ(MN)
RW01	4822 116 60455	Metal Resistor 270Ω ±5% 2W
DN51	4822 130 33305	Diode 1SS176, etc.
JW01	4822 267 31227	Jack, Headphone /00B/01B/02B/05B/07B
	4822 267 31229	Jack, Headphone /10B/12B/15B/17B
LN51	4822 280 20196	Relay
SS01	4822 276 12197	Push Switch
SW01	4822 276 12218	Push Switch /00B/01B/02B/05B/07B
		PV01-INPUT SELECTOR CIRCUIT BOARD
CV01	4822 122 32486	Ceramic Cap. 0.01μF +80% -20%
CV06		
DV01	4822 130 33305	Diode 1SS176, etc.
JV01	4822 266 30282	Terminal, 2P RCA
JV02	4822 266 30284	Terminal, 4P RCA
LV01	4822 280 20195	Relay, SZ-2104
SV01	4822 277 21412	Slide Switch, Selector

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
		<b>PY01-TAPE INDICATOR CIRCUIT BOARD</b>			<b>P701-POWER AMP. CIRCUIT BOARD</b>
CY01	4822 124 21737	Elect Cap. 100 $\mu$ F 6.3V	CN01	4822 124 22274	<b>P701-CAPACITORS</b>
RY06	4822 111 50474	Resistor 330 $\Omega$ $\pm 5\%$	CN02	4822 124 41543	Elect 4.7 $\mu$ F 50V
DY01	4822 130 80326	L.E.D. LT3D8B (RED)	CN04	4822 124 22275	Elect 1 $\mu$ F 50V
DY05			CN05	4822 124 23417	Elect 47 $\mu$ F 10V
DY06	4822 130 80317	Zener Diode RD5.1JB2/MTZJ5.1B	CW51	4822 122 32486	Elect 33 $\mu$ F 10V
		<b>P401-PHONO AMP. CIRCUIT BOARD</b>	CW52	4822 122 32486	<b>P701-CAPACITORS</b>
		<b>P401-CAPACITORS</b>	CW53	4822 122 32486	Ceramic 0.01 $\mu$ F +80% -20% [/02B/12B]
C401	4822 122 32486	Ceramic 0.01 $\mu$ F +80% -20%	CW54	4822 122 32486	Ceramic 0.01 $\mu$ F +80% -20% [/02B]
C402	4822 122 32486	Ceramic 0.01 $\mu$ F +80% -20%			Ceramic 0.01 $\mu$ F +80% -20% [/02B]
C403	4822 126 11069	Ceramic 150 $\mu$ F $\pm 10\%$			Ceramic 0.01 $\mu$ F +80% -20% [/02B]
		/00B/01B/05B/07B			Ceramic 0.01 $\mu$ F +80% -20% [/02B]
C403	4822 121 51037	Film 150 $\mu$ F $\pm 5\%$ /10B/15B/17B	C701	4822 124 90362	Elect 22 $\mu$ F 50V
C404	4822 126 11069	Ceramic 150 $\mu$ F $\pm 10\%$	C702	4822 124 90362	Elect 22 $\mu$ F 50V
		/00B/01B/05B/07B	C703	4822 126 11071	Ceramic 330 $\mu$ F $\pm 10\%$
C404	4822 121 51037	Film 150 $\mu$ F $\pm 5\%$ /10B/15B/17B	C704	4822 126 11071	Ceramic 330 $\mu$ F $\pm 10\%$
C405	4822 121 42761	Ceramic 2700 $\mu$ F $\pm 5\%$	C705	4822 124 90354	Elect 100 $\mu$ F 16V
C406	4822 121 42761	Film 2700 $\mu$ F $\pm 5\%$	C706	4822 124 90354	Elect 100 $\mu$ F 16V
			C707	4822 121 51037	Film 150 $\mu$ F $\pm 5\%$
C407	4822 124 22278	Elect 51 $\mu$ F 10V	C708	4822 121 51037	Film 150 $\mu$ F $\pm 5\%$
C408	4822 124 22278	Elect 51 $\mu$ F 10V	C709	4822 126 11068	Ceramic 39pF $\pm 5\%$
C409	4822 124 22278	Elect 510 $\mu$ F 10V			/00B/01B/05B/07B
C410	4822 124 22279	Elect 510 $\mu$ F 10V			Ceramic 100pF $\pm 5\%$
C411	4822 121 42764	Film 0.047 $\mu$ F $\pm 5\%$	C710	4822 126 11068	/02B/12B
C412	4822 121 42764	Film 0.047 $\mu$ F $\pm 5\%$			Film 30pF $\pm 10\%$
C413	4822 121 42755	Film 0.012 $\mu$ F $\pm 5\%$			/10B/15B/17B
C414	4822 121 42755	Film 0.012 $\mu$ F $\pm 5\%$	C711	4822 121 43127	Ceramic 39pF $\pm 5\%$
C415	4822 121 42758	Film 1800pF $\pm 5\%$	C712	4822 121 43127	/00B/01B/05B/07B
C416	4822 121 42758	Film 1800pF $\pm 5\%$	C713	4822 121 43128	Ceramic 100pF $\pm 5\%$
			C714	4822 121 43128	/02B/12B
C417	4822 124 90358	Elect 22 $\mu$ F 16V	C715	4822 124 90362	Film 30pF $\pm 10\%$
C418	4822 124 90358	Elect 22 $\mu$ F 16V			/10B/15B/17B
C419	4822 124 90365	Elect 220 $\mu$ F 25V	C716	4822 124 90362	Ceramic 22 $\mu$ F 50V
C420	4822 124 90365	Elect 220 $\mu$ F 25V			/00B/01B/02B/05B/07B
C421	4822 121 42763	Film 3900pF $\pm 5\%$	C717	4822 124 90366	Elect 22 $\mu$ F 50V
C422	4822 121 42763	Film 3900pF $\pm 5\%$	C718	4822 124 90366	Elect 22 $\mu$ F 50V
C430	4822 124 90365	Elect 220 $\mu$ F 25V			Elect 220 $\mu$ F 25V
		<b>P401-RESISTORS</b>	C719	4822 124 90365	Elect 220 $\mu$ F 25V
R407	4822 116 53691	4.64K $\Omega$ $\pm 1\%$ 1/6W	C720	4822 124 90363	Elect 220 $\mu$ F 10V
R410			C751	4822 124 90354	Elect 100 $\mu$ F 16V
R431	4822 116 52892	100 $\Omega$ $\pm 5\%$ 1/4W	C752	4822 124 90354	Elect 100 $\mu$ F 16V
R432	4822 116 52892	100 $\Omega$ $\pm 5\%$ 1/4W	C753	4822 121 43126	Film 120pF $\pm 5\%$
R434	5322 116 53479	22 $\Omega$ $\pm 5\%$ 1/4W	C754	4822 121 43126	Film 120pF $\pm 5\%$
R441	4822 116 53691	4.64K $\Omega$ $\pm 1\%$ 1/6W	C755	4822 121 43126	Film 120pF $\pm 5\%$
R442	4822 116 53691	4.64K $\Omega$ $\pm 1\%$ 1/6W	C756	4822 121 43126	Film 120pF $\pm 5\%$
		<b>P401-SEMICONDUCTORS</b>			
D401	4822 130 80838	Zener RD18JB2/MTZJ18C	▲ C801	4822 124 42042	Elect 8200 $\mu$ F 45V
Q401	4822 130 42839	F.E.T. 2SK369(BL)	▲ C801	4822 124 42043	/00B/01B/02B/05B/07B
Q404			▲ C802	4822 124 42042	Elect 10000 $\mu$ F 45V
Q405	4822 209 73064	IC NJM2068DD	▲ C802	4822 124 42043	/10B/12B/15B/17B
		<b>P401-MISCELLANEOUS</b>			Elect 8200 $\mu$ F 45V
J401	4822 265 20355	Terminal, 2P RCA	C804	4822 122 32486	/00B/01B/02B/05B/07B
L401	4822 156 11019	Choke Coil, 320 $\mu$ H [/02B/12B]	C805	4822 124 41535	Elect 100 $\mu$ F 25V
L402	4822 156 11019	Choke Coil, 320 $\mu$ H [/02B/12B]	C806	4822 124 41536	Elect 100 $\mu$ F 35V
			C807	4822 124 90355	Elect 100 $\mu$ F 50V
			C808	4822 124 90355	Elect 100 $\mu$ F 50V
			C809	4822 122 32486	Ceramic 0.01 $\mu$ F +80% -20%

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
RN01 RN02 RN51 RN52	4822 111 91257 4822 111 91257 4822 116 60455 4822 116 60455	<b>P701-RESISTORS</b> 1KΩ ±5% 1/6W 1KΩ ±5% 1/6W 270Ω ±5% 2W, Metal 270Ω ±5% 2W, Metal	Q701 Q702 Q703 Q704 Q705 Q751 Q752 Q753 Q754 Q755	4822 130 42951 4822 130 42951 4822 130 43233 4822 130 43233 4822 209 83732 4822 130 60526 4822 130 60526 4822 130 43233 4822 130 43233 4822 130 42951	Transistor 2SA970(GR, BL) Transistor 2SA970(GR, BL) Transistor 2SC2240(GR, BL) Transistor 2SC2240(GR, BL) IC AN7062P Transistor 2SD1508 Transistor 2SD1508 Transistor 2SC2240(GR, BL) Transistor 2SC2240(GR, BL) Transistor 2SA970(GR, BL)
▲R707 ▲R707 ▲R708	4822 113 90231 4822 116 80828 4822 113 90231	560Ω ±2% ¼W, Fuse [/02B/05B] 270Ω ±2% ¼W [/12B/15B] 560Ω ±2% ¼W, Fuse [/02B/05B]	Q756 Q757 Q758 Q759 Q760 ▲Q761 4822 130 61747 4822 130 61747	4822 130 42951 4822 130 62335 4822 130 62335 4822 130 62334 4822 130 62334 4822 130 61319 4822 130 61747	Transistor 2SA970(GR, BL) Transistor 2SD2033(E) Transistor 2SD2033(E) Transistor 2SB1353(E) Transistor 2SB1353(E) Transistor 2SC3181(R, O) /00B/01B/02B/05B/07B Transistor 2SC3182N(R, O) /10B/12B/15B/17B
▲R708 R713 R714 R732 ▲R733	4822 116 80828 4822 050 23303 4822 050 23303 4822 116 60346 4822 116 60313	270Ω ±2% ¼W [/12B/15B] 33KΩ ±5% ½W 33KΩ ±5% ½W 2.2KΩ ±5% 1W 10Ω ±5% ½W, Fusible	▲Q762 4822 130 61319 4822 130 61747	4822 130 42951 4822 130 61319 4822 130 61747	Transistor 2SC3181(R, O) /00B/01B/02B/05B/07B Transistor 2SC3182N(R, O) /10B/12B/15B/17B
▲R734 R755 R756 R757 R758 R759 R760 R761 R762 R763	4822 116 60313 4822 100 20681 4822 100 20681 4822 111 91285 4822 111 91285 4822 111 91285 4822 111 91285 4822 111 91257 4822 111 91257 4822 111 50474	10Ω ±5% ½W, Fusible 2.2KΩ, Trimming 2.2KΩ, Trimming 100Ω ±5% 1/6W 100Ω ±5% 1/6W 100Ω ±5% 1/6W 100Ω ±5% 1/6W 1KΩ ±5% 1/6W 1KΩ ±5% 1/6W 330Ω ±5% 1W	▲Q763 4822 130 43018 4822 130 61746	4822 130 43018 4822 130 61746	Transistor 2SA1264(R, O) /00B/01B/02B/05B/07B Transistor 2SA1265N(R, O) /10B/12B/15B/17B
▲R764 ▲R765 ▲R766 R767 R768 R769 R770 R771 R772 ▲R773 ▲R774	4822 111 50474 4822 116 52348 4822 116 52348 4822 116 82049 4822 116 82049 4822 116 52849 4822 116 52849 4822 111 90726 4822 111 90726 4822 116 52348 4822 116 52348	330Ω ±5% 1W 2.2Ω ±5% ¼W 2.2Ω ±5% ¼W 0.18Ωx2 ±10% 3W 0.18Ωx2 ±10% 3W 220Ω ±5% ½W 220Ω ±5% ½W 10Ω ±5% 2W 10Ω ±5% 2W 2.2Ω ±5% ¼W 2.2Ω ±5% ¼W	▲Q764 4822 130 43018 4822 130 61746	4822 130 43018 4822 130 61746	Transistor 2SA1264(R, O) /00B/01B/02B/05B/07B Transistor 2SA1265N(R, O) /10B/12B/15B/17B
▲R801 ▲R802 ▲R803 ▲R804 R805 R806 ▲R807 R810	4822 116 60306 4822 111 90731 4822 116 60306 4822 111 90731 4822 111 91423 4822 111 91423 4822 113 90119 4822 116 60338	1Ω ±5% ½W, Fusible 47Ω ±2% ¼W, Fuse 1Ω ±5% ½W, Fusible 47Ω ±2% ¼W, Fuse 1.2KΩ ±5% ½W 1.2KΩ ±5% ½W 22Ω ±2% ¼W, Fuse 150Ω ±5% 2W	Q801 Q802 JW51	4822 130 43311 4822 130 43023 4822 290 60837	Transistor 2SC3298(O, Y) Transistor 2SA1306(O, Y)
DN01 DN02 DN03 DN04	4822 130 80837 4822 130 80837 4822 130 33305 4822 130 33305	<b>P701-SEMICONDUCTORS</b> Diode HSS81 Diode HSS81 Diode 1SS176, etc. Diode 1SS176, etc.	JW51 JW52	4822 290 60841 4822 290 60836	Terminal, Speaker [/00B/01B/05B/07B/10B/11B/15B/ 17B]
D701 D704 D705 D706	4822 130 33305 4822 130 80273 4822 130 80322	Diode 1SS176, etc. Zener RD8.2JB2/MTZJ8.2C Zener RD15JB1/MTZJ15B	JW52	4822 290 60839	Terminal, Speaker /02B/12B
▲D801 D802 D803 D804 D805 ▲D806	4822 130 31007 4822 130 33305 4822 130 33305 4822 130 80116 4822 130 80838 4822 130 80839	Diode S4VB-20 Diode 1SS176, etc. Diode 1SS176, etc. Zener RD24JB2/MTZJ24D Zener RD18JB2/MTZJ18C Diode S5688G	▲F902 ▲G901 ▲G902 ▲J903 ▲S901	4822 253 30191 4822 121 43732 4822 122 33276 4822 264 30313 4822 276 11654	Fuse 5A 250V Film Cap. 0.01μF ±20% /00B/01B/02B/07B/10B/12B/17B Ceramic Cap. 0.01μF ±20% /05B/15B Jack, AC Outlet /01B Push Switch, Power
QN01 QN02 QN03 QN04	4822 130 43233 4822 130 43233 4822 130 42951 4822 290 83312	Transistor 2SC2240(GR, BL) Transistor 2SC2240(GR, BL) Transistor 2SA970(GR, BL) IC TA7317P			

**NOTE ON SAFETY:**

Symbol ▲ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ▲. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.